

WE CLAIM:

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1. A system for arranging a first connector and second connector which are adapted to receive a first and a second 5 modules therein, respectively;

said first connector including a first main body with first contacts therein; and

said second connector including a second main body with second contacts therein; wherein

10 said first connector and said second connector are oppositely aligned with each other in a front-to-end direction in a head-to-head state.

2. The system as defined in claim 1, wherein the first module is inserted into the first connector in a normal manner 15 and the second module is inserted into the second connector in an upside-down manner.

3. The system as defined in claim 1, wherein a plurality of traces are provided to respectively connect pairs of contacts of which one is in the first connector and the other is in the 20 second connector.

4. The system as defined in claim 3, wherein said each pair of contacts includes one in an upper passageway in one connector, and the other in a lower passageway in the other connector.

25 5. The system as defined in claim 3, wherein the traces are parallel with each other and extend along said front-to-end direction.

6. The system as defined in claim 1, wherein the first connector includes a first key which is opposite to a second key 30 of the second connector in said front-to-end direction.

7. The system as defined in claim 1, wherein the second connector includes an elongated recess formed along a lower portion of the second main body.

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8. A connector which is generally of a reversed type to a standard connector, comprising:

a housing including a main body defining upper row passageways and lower row passageways for receiving a plurality of upper contacts and lower contacts therein, respectively;

said housing defining a central slot for receiving a module therein;

a key positioned in said central slot when said key is on an opposite side with regard to a center line of the main body in comparison with another key of the standard connector whereby the module, which is adapted to be received within the standard connector in a normal manner, can be received within the central slot of the housing in an upside-down manner.

9. The connector as defined in claim 8, wherein a space is provided on a lower portion of the main body of the connector in comparison with the standard connector in order not to interfere with components on a back surface of the module.

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10. An electrical connector assembly, comprising:

a first connector including a housing having a main body defining first upper row passageways and first lower row passageways for receiving a plurality of first upper contacts and first lower contacts, respectively;

a module adapted to be received within a second connector which is a standard connector having second upper row passageways and second lower row passageways for receiving a plurality of second upper contacts and second lower contacts so as to engage with corresponding pads printed on an upper surface and a back surface of the module;

said module being received within the housing in an upside-down status wherein each pad, which is printed on the upper/back surface of the module and positioned on a right/left side thereof and is adapted to engage with one second upper/lower contact on a right/left side of the second connector, is

substantially engaged with one first lower/upper contact on a left/right side of the first connector.

11. A method for upside-down installing a module into a connector wherein said module has a notch positioned on a 5 right/left side thereof and a plurality of pads on both upper and back surfaces, the steps comprising:

providing said connector with a key positioned on a left/right side thereof; and

providing said connector with a first set of upper 10 contacts and a second set of lower contacts divided by a central slot which is adapted to receive therein the module wherein the upper contacts engage with the pads on the back surface of the module and the lower contacts engage with the pads on the upper surface of the module.

12. The method as defined in claim 11, wherein the 15 connector is provided with an additional space around the lower portion of a main body adjacent the lower contacts so as not to interfere with components mounted on the upper surface of the module.

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20 13. An arrangement for electrically interconnecting a first connector and a second connector wherein the first connector is adapted to receive a first module in a normal installation condition and the second connector is adapted to receive said module in an upside-down installation condition, comprising:

25 said first connector including a first housing having a first main body defining a plurality of upper contacts and lower contacts;

said second connector including a second housing having a second main body defining a plurality of upper contacts and 30 lower contacts;

said module comprising a plurality of pads printed on upper and back surfaces thereof; wherein

an Nth pad, counted from a right side, on the upper/back surface of said module is adapted to engage with a

corresponding Nth upper/lower contact counted from a right side arm of the first connector, but is adapted to engage with a corresponding Nth lower/upper contact counted from a left side arm of the second connector.

5 14. The arrangement as defined in claim 13, wherein a trace is provided to connect the Nth upper/lower contact of the first connector and the Nth lower/upper contact of the second connector.

15. A connector assembly comprising:

10 a first connector including a first housing having a first main body defining first upper row passageways and lower row passageways for receiving a plurality of first upper contacts and lower contacts therein, respectively;

a module including a plurality of pads printed on both  
15 upper and back surfaces thereof wherein said module is adapted to be received within another complementary connector which includes a plurality of second upper contacts and lower contacts whereby an Nth pads on the upper/back surface counted from a right side can be engaged with an Nth second upper/lower contacts counted  
20 from a right side arm of the second connector; and wherein

said Nth pad is adapted to be engaged with an Nth first lower/upper contact counted from a left side arm of the first connector when said module is upside-down installed within the first connector.

25 16. The connector assembly as defined in claim 15, wherein the module has a notch offset from a center line thereof on the right side and the first connector has a key offset from another center line thereof on a left side.

17. The connector assembly as defined in claim 15, wherein  
30 an additional recess is provided to accommodate possible electrical components mounted on the back surface of the module therein.

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